

FIG. 1A

(1:5, HEAVY CHAIN) [SEQ ID NO.: 1]

CDR3
VOLLEQSGA EVRKPCSSVK VSCKASGGTF S<u>GHVIT</u>WVRQ APGQGLEWMG <u>ESIPIEGSAN YAONYAOKER D</u>RVSIIADES TSTSFIEISN LRSDDTAVYY CAR<u>DPPRYCS AGRCYPGFFO O</u>WGQGTLVTV SS

CDR3
EVQLLEQSGA EVKKPGSSVK VSCQVFGDTF S<u>RYTIQ</u>WLRQ APGQGPEWMG <u>NIIPVYNITPN YAOKEOG</u>RLS ITADDSTSTA YMEISSIRSE DTAVYFCAR<u>V VIPNAIRHTM GYXEDY</u>WGQG TLVTVSS

(1:7, HEAVY CHAIN) [SEQ ID NO.: 2]

FIG. 1B



FIG. 1C

(1:11, HEAVY CHAIN) [SEQ ID NO.: 3

EVOLLEGISGA EVKKPGSSVK VSCKASGGTF SGHVISWVRQ APCQGLEWMG GSISFEGTSN SAOKEOGRVS ITADESASTA YMELSSIRSE DTAITYCAK<u>D PPRECSGGNC YPGFEOQ</u>WGQ GTLVTVSS CDR1

CDR3 3VQLLESGGG VVQPCRSIRL SCAASGFTFK <u>TYGMH</u>WVRQA PGKGLEWVA<u>G ISEDGSNOYY ADSVKG</u>RFIV SRDNSRDTVF LQMSSLRLED TAVYYCAT<u>EG SPEGSIKGRY YLEN</u>WGQGTL VTVSS

(L3, HEAVY CHAIN) [SEQ ID NO.: 4]

FIG. 1D



[SEQ ID NO.: FIGURE 1E (L1, HEAVY CHAIN) CDR 2 CDR 1 COPILESGGG VVQPGRSLRL SCAASGFTFS <u>AYGMH</u>WVRQA PGKGLEWVAG <u>IWFDGSNQYYSDSVKG</u>RFTV -CDR 3 SRDNSRNTLF LQMNSLRPED TAVYYCAT<u>EV LFGSIKGRYY LEN</u>WGQGTLVTVSS

[SEQ ID NO.: 6 FIGURE 1F (A8, HEAVY CHAIN)

CDR 3 SVDKSKDQVS LRLSSVTAAD TAVYYCAR<u>SP IKMNOGRMML DAFDI</u>WGQGTLVIVSS CDR 1 VOLLESGPG LVKPSGTLSL TCTVSGGSIR S<u>SHWWS</u>WVRQ PPGKGLEWIG <u>EVFESGSTIYNPSLND</u>RVFM

SEQ ID NO.: FIGURE 1G (A12, HEAVY CHAIN) CDR 1 VQLLESGSE VKKPGSSVKV SCRASGGSFR <u>SYNFN</u>WVRQA PGQGLEWMGG <u>IIPMFGTANYAQKFQG</u>RVTI -

CDR 3 TADESTATGY MELSSLRSED TAVYYCAM<u>PY PKHCSRGSCW GWFDP</u>WGQGTLVTVSS



FIG. 2A

(1:5, HEAVY CHAIN) [SEQ ID NO.: 8]

AELTQSPGTL SLSPGERATL SC<u>RASOSVSS NYLA</u>WYQQRP GQAPRLLI<u>YG ASSRAT</u>GIPD RFSGSGSGTD FTLTISRLEP EDFAVYYC<u>OL YGNSRW</u>TFGQ GTKVEIK

AELTQSPATL SLSPGERATL SC<u>RASOSVNK YLA</u>WYQQKPG QAPRLLIY<u>DA SNRAT</u>GIPAR FSGSGSGTDF TLTISNLEPE DFAVYYC<u>QOR SDWYT</u>FGGGT KVEIK

(1:7, HEAVY CHAIN) [SEQ ID NO.: 9]

FIG. 2B



FIG. 2C

(1:11, HEAVY CHAIN) [SEQ ID NO.:10]

ELTOSPGTL SLSPGERATL SCGASOSVRS NYLAWYQOKP GQAPRLLIYG VSSRATGIPD RFSGSGSGTD FTLTISRLEP EDFAVYYC<u>OO YGSSPRT</u>FGQ GTKLEIK CDR3 CDR 2 CDR1

AELTQSPATL SVSPGERASL SC<u>RASOSVGN NLA</u>WYQQKPG QAPRLLIY<u>GG NTRA</u>IGTPDR FSGSGSGTEF TLTISSLQSE DFAVYFC<u>OHY STWPL</u>TFGGG TKVEFK CDR 2

(L3, HEAVY CHAIN) [SEQ ID NO::11]

FIG. 2D

IGURE 2E (L1, LIGHT CHAIN) [SEQ ID NO::12

CDR 1 CDR 2 VELTQSPGTL SLSVGERATL SCRASQNIYS GYLGWYQQKP GQPPRLLIYG ASNRAIGIPD

- RFSGSGSGTD FTLTISRLES EDFAVYYCQQ YGSPPYTFGQ GTKVEIK

[SEQ ID NO.: 13] 'IGURE 2F (A8, LIGHT CHAIN)

CDR 3 - FSGSGSGTDF TLTITSLQPE DFATYYC<u>QQS YTTPRI</u>FGQG TKVEVK CDR 1 ELTQSPSSL SAFVGDRVTI TC<u>BASQSISR NLN</u>WYQQKPG TAPKVLIY<u>AA SSLQS</u>GVPSR

[SEQ ID NO.: 14] 'IGURE 2G (A12, LIGHT CHAIN) CDR 2 ELTQSPGTL SLSPGERATL SC<u>RASQSLSS KYLA</u>WYQQKP GQAPRLFIY<u>D ASSRAT</u>GIPD CDR 3 - RFSGSGSGTD FTLSISRLEP EDFAVYYC<u>QQ YGIPRI</u>FGQG TKVEIK



FIG. 3A

(1:5, HEAVY CHAIN) [SEQ ID NO::15]

CTATGGTGCA TCCAGCAGGG CCACTGGCAT CCCAGACAGG TTCAGTGGCA GTGGGTCTGG GACAGACTTC GAGCTCACGC AGTCTCCAGG CACCCTGTCT TTGTCTCCAG GGGAAAGAGC CACCCTCTCC TGCAGGGCCA GTCAGAGTGT TAGCAGCAAT TACTTAGCCT GGTACCAGCA GAGACCTGGC CAGGCTCCCA GGCTCCTCAT ACTCTCACCA TCAGCAGACT GGAGCCTGAA GATTTTGCAG TGTATTACTG TCAGCTTTAT GGTAACTCAC GTTGGACGTT CGGCCAAGGG ACCAAGGTGG AGATCAAA

TGATGCATCC AACAGGGCCA CTGGCATCCC AGCCAGGTTC AGTGGCAGTG GGTCTGGGAC AGACTTCACT GTCAGAGTGT TAACAAGTAC TTAGCCTGGT ACCAACAGAA ACCTGGCCAG GCTCCCAGGC TCCTCATCTA CTCACCATCA GCAACCTAGA GCCTGAAGAT TITGCAGTTT ATTACTGTCA GCAGCGTAGC GACTGGGTCA GAGCTCACTC AGTCTCCAGC CACCCTGTCT TTGTCTCCAG GGGAAAGAGC CACCCTCTCC TGCAGGGCCA CTTTCGGCGG AGGGACCAAG GTGGAGATCA AA

(1:7, HEAVY CHAIN) [SEQ ID NO.: 16]

FIG. 3B



FIG. 3C

(1:11, HEAVY CHAIN) [SEQ ID NO.: 17]

CTATGGTGTA TCCAGCAGGG CCACTGGCAT CCCAGACAGG TTCAGTGGCA GTGGGTCTGG GACAGACTTC ACTCTCACCA TCAGCAGACT GGAGCCTGAA GATTTTGCAG TGTATTACTG TCAGCAGTAT GGTAGCTCAC GTCAGAGTGT TAGGAGCAAC TACTTAGCCT GGTACCAGCA AAAACCTGGC CAGGCTCCCA GGCTCCTCAT GAGCTCACGC AGTCTCCAGG CACCCTGTCT TTGTCTCCAG GGGAAAGAGC CACCCTCTCC TGCGGGGCCA CTCGGACTTT TGGCCAGGGG ACCAAGTTGG AGATCAAA

TGGTGGAAAC ACCAGAGCCA CTGGTACCCC AGACAGGTTC AGTGGCAGTG GGTCTGGGAC AGAATTCACT GTCAGAGTGT CGGTAACAAT TTAGCTTGGT ATCAGCAGAA ACCTGGCCAG GCTCCCAGGC TCCTCATTTA GAGCTCACGC AGTCTCCAGC CACCCTGTCT GTGTCTCCAG GGGAAAGAGC CTCCCTCTCC TGCAGGGCCCA CTCACCATCA GCAGCCTGCA GTCTGAGGAC TTTGCAGTTT ATTTCTGTCA ACACTATAGT ACCTGGCCGC TCACTTTCGG CGGGGGACC AAGGTCGAGT TCAAG

(L3, HEAVY CHAIN) [SEQ ID NO.: 18]

FIG. 3D



(L1, LIGHT CHAIN) FIGURE

QAGGTGCAGC TGCTCGAGTC TGGGGGAGGC GTGGTCCAGC CTGGGAGGTC CCTGAGACTC TCCTGTGCAG CGTCTGGATT CACCTTCAGT GCTTATGGCA TGCACTGGGT CCGCCAGGCT CCAGGCAAGG GGCTGGAGTG GGTGGCAGGT ATATGGTTTG ATGGAAGTAA TCAATACTAT TCAGACTCCG TGAAGGGCCG ATTCACCGTC TCAGAGACA ATTCCAGGAA CACGCTGTTT CTGCAATGA ACAGCCTGAG ACCCAAGGAC ACGGCTGTCT ATTACTGTGC GACAGAGA CTTTTTGGAT CGATTAAGGG GCGTTACTAC CTTGAAAACT GGGGCCAGGG AACCCTGGTC ACCGTCTCCT CA

GURE 3F (A8, LIGHT CHAIN) [SEQ ID NO.: 20]

GCGGAGCTCA CCCAGTCTCC ATCGTCCCTG TCTGCATTTG TNGGAGACAG AGTCACCATC ACTTGCCGGG CTATGOTGCA TCCAGTTTGC AAAGTGGGGT CCCATCGAGG TTCAGTGGCA GTGGATCTGG GACAGATTTC ACTCTCACCA TCACCAGTCT GCAACCTGAA GATTTTGCAA CTTACTATTG TCAACAGAGT TACACAACCC CAAGTCAGAG TATTAGCAGG AACTTAAATT GGTATCAGCA GAAACCAGGG ACAGCCCCTA AGGTCCTGAT CTCGGACGTT CGGCCAAGGG ACCAAGGTGG AAGTCAAA

[SEQ ID NO.: FIGURE 3G (A12, LIGHT CHAIN)

GCCGAGCTCA CGCAGTCTCC AGGCACCCTG TCTTTGTCTC CAGGGGAAAG AGCCACCCTC TCCTGCAGGG CCAGTCAGAG TCTTAGCAGC AAATACTTAG CNTGGTACCA ACAGAAACCT GGCCAGGCTC CCAGGCTCTT CATTTATGAT GCATCCAGCA GGGCCACTGG CATCCCAGAC AGGTTCAGTG GCAGTGGGTC TGGGACAGAC TTCACTCTCA GCATCAGCAG ATTGGAGCCT GAAGATTTTG CAGTGTATTA CTGTCAGCAG TATGGAACAC CTCGCACCTT CGGCCAGGGG ACCAAGGTGG AAATCAAA



FIG. 4A

(1:5, HEAVY CHAIN) [SEQ ID NO.: 22]

CTCGAGCAGT CTGGGGCTGA GGTGAGGAAG CCTGGGTCCT CGGTGAAGGT CTCCTGCAAG GCTTCTGGAG GCACCTTCAG CGGCCATGTT ATCACCTGGG TGCGACAGGC CCCTGGACAA GGACTTGAGT GGATGGGAGA GAGCATCCCT ATCTTTGGTT CCGCAAACTA CGCTCAAAAC TACGCTCAGA AATTCCGGGA CAGAGTCTCG ATTATCGCGG ACGAATCCAC GAGCACGTCG TTCATTGAGC TGAGCAACCT GAGATCTGAC GACACGGCCG TCTACTACTG TGCGAGAGAC CCTCCAAGAT ATTGCAGTGC TGGTAGATGC TACCCGGGAT TCTTCCAGCA GTGGGGCCAG GGCACCCTCG TCACCGTCTC CTCA

ACACCTTCAG CAGATACACT ATTCAGTGGT TGCGACAGGC CCCTGGACAA GGGCCTGAGT GGATGGGAAA TATCATCCCT GTCTATAATA CACCAAACTA CGCGCAGAAG TTTCAGGGCA GACTCTCGAT AACCGCCGAC CTCGAGCAGT CTGGGGCTGA GGTGAAGAAG CCTGGGTCCT CGGTGAAGGT CTCCTGTCAG GTTTTTGGAG CGAGAGTCGT AATACCAAAT GCAATCCGGC ACACGATGGG ATATTACTTT GACTACTGGG GCCAGGGAAC GATTCCACGA GCACAGCCTA CATGGAACTG AGTAGCCTCA GATCTGAGGA CACGGCCGTC TATTTCTGTG CCTGGTCACC GTCTCCTCA

(1:7, HEAVY CHAIN) [SEQ ID NO.: 23]

FIG. 4B



FIG. 4C

(1:11, HEAVY CHAIN) [SEQ ID NO.: 24]

CTCGAGCAGT CTGGGGCTGA GGTGAAGAAG CCTGGGTCCT CAGTGAAGGT CTCCTGCAAG GCTTCTGGAG GCACCTTCAG CGGCCATGTT ATCAGCTGGG TGCGACAGGC CCCTGGACAA GGGCTTGAGT GGATGGGGGG GAATCCGCGA GCACAGCCTA CATGGAGCTG AGTAGCCTGA GATCGGAGGA CACGGCCATC TATTACTGTG CGAAAGACCC TCCAAGATIT TGTAGTGGTG GTAACTGCTA CCCGGGGTTC TTCCAGCAGT GGGGCCAGGG GAGTATCTCT TTCTTTGGCA CATCAAACTC CGCACAGAAG TTCCAGGGCA GAGTCTCGAT TACCGCGGAC CACCCTGGTC ACCGTCTCCT CA

FIG. 4D

(L3, HEAVY CHAIN) [SEQ ID NO.: 25]

CCTTCAAGAC GTATGGCATG CACTGGGTCC GCCAGGCTCC AGGCAAGGGG CTGGAGTGGG TGGCAGGTAT TTCGTTTGAT GGAAGTAACC AATATTACGC AGACTCCGTG AAGGGCCGAT TCATCGTCTC CAGAGACAAT CTCGAGTCGG GGGGAGGCGT GGTCCAGCCT GGGAGGTCCC TGAGACTCTC CTGTGCAGCG TCTGGATTCA ICCAGGGACA CGGTGTTTCT GCAGATGAGC AGCCTGAGAC TCGAGGACAC GGCTGTCTAT TACTGTGCGA CAGAGGGTTC TCCTTTTGGC TCGATTAAGG GGCGTTACTA CCTTGAAAAT TGGGGCCAGG GAACCCTGGT



[SEQ ID NO.: 19] (L1, HEAVY CHAIN) **4** 国 FIGURE

GAGGTGCAGC TGCTCGAGTC TGGGGGAGGC GTGGTCCAGC CTGGGAGGTC CCTGAGACTL (CCTGTGCAG CBTCTGGATT CACCTTCAGT GCTTATGGCA TGCACTGGGT CCGCCAGGCT CCAGGCAAGG GGCTGGAGTG GETGECAGGT ATATGGTTTG ATGGAAGTAA TCAATACTAT TCAGACTCCG TGAAGGGCCG ATTCACCGTC TCCAGAGACA ATTCCAGGAA CACGCTGTTT CTGCAAATGA ACAGCCTGAG ACCCGAGGAC ACGGCTGTCT ATTACTGTGC GACAGAGGTA CTTTTTGGAT CGATTAAGGG GCGTTACTAC CTTGAAAACT GGGGCCAGGG AACCCTGGTC ACCGTCTCCT CA

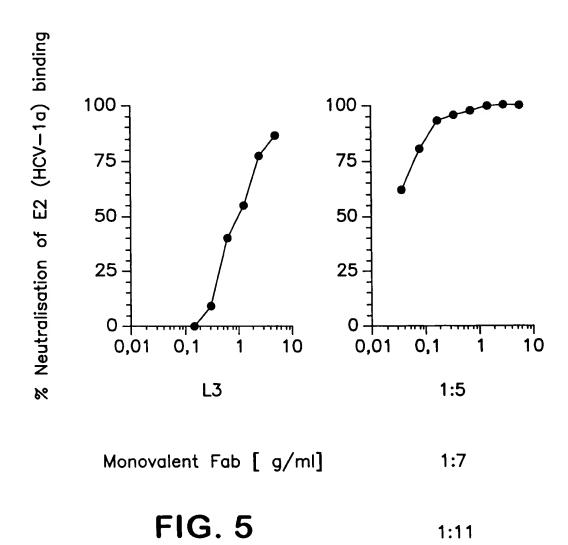
[SEQ ID NO.: 26 FIGURE 4F (A8, HEAVY CHAIN)

GAGGTGCAGC TGCTCGAGTC GGGCCCAGGA CTGGTGAAGC CTTCGGGGAC CCTGTCCCTC ACCTGCACTG TCTCTGGTGG CTCCATCAGG AGCAGTCACT GGTGGAGTTG GGTCCGCCAG CCCCCAGGGA AGGGACTGGA ICTGTAGACA AGTCCAAGGA CCAGGTCTCC CTGAGGCTGA GCTCTGTGAC CGCCGCGGAC ACGGCCGTGT GTGGATTGGA GAAGTCTTTT TTAGTGGAAG CACCATCTAC AACCCATCC TCAACGATCG AGTCTTCATG ATTACTGTGC GAGATCCCCC ATAAAAATGA ATCAGGGAAG AATGATGTTG GATGCCTTTG ATATCTGGGG CCAGGGGACA CTCGTCATCG TCTCTTCC

[SEQ ID NO.: 27] 4G (A12, HEAVY CHAIN) FIGURE

GAGGTGCAGC TGCTCGAGTC TGGGTCTGAG GTGAAGAAGC CTGGGTCTTC GGTGAAGGTC TCCTGCAGGG ACCECEBACE ANTOCACES CACAGECTAC ATGEAGITE ACAGTOTORA ATOTORAGA ACGECCETT ATTACTETEC GATECCCTAT CCAAAACATT GCAGTCGTGG AAGTTGCTGG GGCTGGTTCG ACCCCTGGGG CCTCTGGAGG CAGCTTCAGA AGCTACAATT TCAATTGGGT GCGACAGGCC CCTGGACAAG GTCTTGAGTG GATGGGAGGC ATCATCCCTA TGTTCGGAAC AGCAAACTAC GCACAGAAGT TTCAGGGCAG AGTCACAATT CCAGGGAACT CTGGTCACCG TGTCTTCA





1:11